

COPY

# EXHIBIT 10



100 GROVE ST | WORCESTER, MA 01605

September 18, 2018

Joseph Laydon  
Town Planner  
Grafton Municipal Center  
30 Providence Road  
Grafton, MA 01519

RECEIVED

T 508-856-0321  
F 508-856-0357  
gravesengineering.com

SEP 18 2018

PLANNING BOARD  
GRAFTON, MA

Subject: 15 Meadowbrook Road  
Preliminary Plan Review

Dear Joe:

We received the following documents on August 24, 2018 via e-mail and on September 17, 2018 in hard-copy format:

- Correspondence from Summit Engineering & Survey, Inc. to the Grafton Planning Board dated August 24, 2018 re: Revised Materials, 15 Meadowbrook Road.
- Plans entitled Preliminary Plan, Sugar Reality Trust, 15 Meadowbrook Road, Grafton MA dated June 8, 2018 and last revised August 23, 2018, prepared by Summit Engineering & Surveying, Inc. for Robert Flynn. (4 sheets)

Graves Engineering, Inc. (GEI) has been requested to review and comment on the plans' conformance with applicable "Rules and Regulations Governing the Subdivision of Land, Grafton, Massachusetts" revised through April 27, 2009; "Grafton Zoning By-Law" amended through May 14, 2018 and standard engineering practices.

This letter is a follow-up to our previous review letter dated August 8, 2018. For clarity, comments from our previous letter are *italicized* and our comments to the design engineer's responses are depicted in **bold**. Previous comment numbering has been maintained.

Our comments follow:

## Zoning By-Laws

- The project is located in Low Density Residential (R-40) Zoning District. The zoning summary table provided on Sheet 1 shows the minimum frontage of a lot as 130 feet. The minimum frontage is 140 feet for this zoning district. (§3.2.3.2)*  
**Acknowledged. The zoning summary table on Sheet 1 has been revised to show a minimum frontage of 140 feet.**

## Subdivision Rules & Regulations

- On Sheet 1 of the plans, the scale of 1"=40' noted at the bottom-right corner of the sheet needs to be corrected to 1"=60'. GEI has no issue with this preliminary plan being prepared at a scale of 1"=60' but any definitive plans will have to be at a scale of 1"=40'. (§3.2.2 & §3.3.2.1)*  
**Acknowledged. The scale has been corrected to reflect 1"=60'.**
- Sheet 2 (Concept Plan A With Waivers) does not contain proposed finished grades of the roadway. Cross-slope adjustments will need to be made to the existing pavement surface to direct stormwater runoff to the roadside swale. If acceptable to the Planning Board, this level*

x:\shared\projects\graffonpb\meadowbrookrd15\reviews\preliminaryplan\j091818.docx

*of detail could be addressed at the definitive plan stage if the project is to be developed under this option. (§3.2.4.1.k)*

**Acknowledged.** The design engineer responded that detailed existing conditions will be shown on the definitive plans; this will permit adjustments to the driveway grades.

4. *Underground utilities were not included in the plans. (§3.2.4.1.k)*

**Acknowledged.** Sheets 2 and 3 were revised to include underground utilities (i.e. electric).

5. *On Sheet 4, a vertical curve length or "K" value was not provided for Concept Plan A or Concept Plan B. A vertical curve is required when the change in grade exceeds one-half of one percent (0.5%). GEI is concerned about the potential for emergency vehicles to "bottom out" at the project entrance and/or at the change in grade at station 1+30+/- (§4.1.5.3 & §4.12.1.5)*

**Acknowledged.** Concept B was revised to show satisfactory K values for the vertical curves. For Concept A, the design engineer responded that the driveway can be evaluated during the definitive plan review process (when detailed existing topographic information is available.) GEI concurs that for Concept A, this level of detail could be addressed during definitive plan review.

6. *On Sheet 4, the Concept Plan B profile proposes a leveling zone (3% maximum road grade) for 76+/- feet as measured from the Meadowbrook Road right-of-way. A leveling zone of at least 100 feet is required. (§4.1.5.6.a)*

**Acknowledged.** Concept B has been revised to lengthen the 3% leveling zone to 100 feet.

7. *GEI understands that the waiver requests pertain to the proposed subdivision as presented on Concept Plan A. Except for Waiver Request 7 (vertical curve requirements) and Waiver Request 8 (length of required leveling area) GEI does not have any engineering-related issues with the waiver requests. Relative to Waiver Requests 7 and 8, sufficient vertical curves and a leveling zone need to be provided to allow unimpeded emergency vehicle access to and from the site.*

**Acknowledged.** GEI concurs with the design engineer that for Concept A, this level of detail could be addressed during definitive plan review.

8. *Whereas Concept Plan A includes waiver requests and the construction of a way essentially in accordance with common driveway requirements, the Planning Board should consider conditioning its decision such that the Town will not become responsible for ownership and maintenance of the road if it is constructed as a common driveway. Such construction would require road maintenance services that are more demanding than standard subdivision streets (e.g. maintenance of roadside swales, less maneuvering area for snow removal equipment at the turnaround).*

**The design engineer responded that the intent is for the road to remain private.**

#### **General Engineering Comments**

9. *At the end of the road, both Concept Plan A and Concept Plan B need to provide a vehicle turnaround whereby the cross-slope of the vehicle is no greater than 4% throughout the turnaround maneuvers. This is typically accomplished by setting the road centerline grade to no more than 4% through a turnaround. The road centerline grades are up to approximately 7% through the turnarounds.*

**Acknowledged.** The profile for the Concept Plan B was satisfactorily revised to include a 4% grade through much of the turnaround. For the Concept A Plan, the design engineer responded that a 4% grade can be reasonably be achieved with minor grading changes and that this can be addressed during definitive plan review. GEI has no issue with the design engineer's response.

10. On Concept Plan A, it appears that the turnaround will accommodate the fire department's pumper trucks but not the ladder truck. The northwest leg of the turnaround may have to be lengthened. If not already done, the Planning Board may wish to solicit comments from the Fire Department.

**Acknowledged.** The design engineer responded that adjustments to the dimensions of the turnaround, if needed, can be made during definitive plan review. GEI has no issue with the design engineer's response.

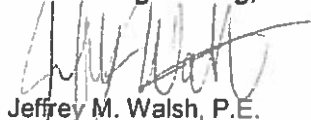
**General Comments**

11. On Sheet 1, the typographic error in Plan Note 7 (Plan Book 42) needs to be corrected. The plan recorded at Plan Book 42, Page 107 is property in another community.

**Acknowledged.** The plan reference has been revised to Plan Book 432.

We trust this letter addresses your review requirements. Feel free to contact this office if you have any questions or comments.

Very truly yours,  
**Graves Engineering, Inc.**



Jeffrey M. Walsh, P.E.  
Vice President

cc: Andrew Baum, P.E.; Summit Engineering & Survey, Inc.